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OUR NATION OF BUILDERS: TRAINING THE BUILDERS OF THE FUTURE

FRIDAY, NOVEMBER 15, 2013

House of Representatives,

Subcommittee on Commerce, Manufacturing, and Trade,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to call, at 9:34 a.m., in Room 2123, Rayburn House Office Building, Hon. Lee Terry [chairman of the subcommittee] presiding.

Present: Representatives Terry, Lance, Blackburn, Guthrie, Olson, Pompeo, Kinzinger, Bilirakis, Johnson, Long, Schakowsky, McNerney and Barrow.

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Staff Present: Charlotte Baker, Press Secretary; Kirby Howard, Legislative Clerk; Nick Magallanes, Policy Coordinator, CMT; Brian McCullough, Senior Professional Staff Member, CMT; Gib Mullan, Chief Counsel, CMT; Shannon Weinberg Taylor, Counsel, CMT; Michelle Ash, Democratic Chief Counsel; and Will Wallace, Democratic Professional Staff Member.

Mr. Terry. Good morning. Thank you. I want to welcome all of our witnesses, and I will introduce you as a panel after the opening statement just before we start your testimony.

So I am going to go ahead and begin my statement and welcome all of our witnesses here. This is the sixth installment in "Our Nation of Builders" series. And the subject matter we are discussing today brings together a common thread from all of our witnesses who have previously testified, that the demands for middle- or semiskilled workers within the manufacturing industry is an across-the-board -- well, I will be blunt -- everyone testified that they have job openings that they have difficulty filling in today's advanced manufacturing because the lack of middle-skilled workers.

So with that, we have seen a variety of different ways of creating their own. We had Toyota here, who created their own community college, on campus, to be able to teach the skills that are necessary in operating today's more modern equipment.

I visited in Omaha an old tool-and-die shop. That when I was 13, my brother-in-law and his dad had a tool-and-die shop, and I -- my job was to sweep up all the metal shavings. That was really my first -- well, it wasn't really a real job. But they would also teach me how to run one of the lathe machines. In today's world, if you walk into a similar tool-and-die shop, like I did at Tri-V, a family-owned tool-and-die shop, you would see that everything has computer screens

and keyboards to operate them.

And they talk about how many job openings, and they found -- they introduced me to a high school girl from Bellevue West High School, a senior, that is in a Dream It. Do It. program, and they have told her if she works for them, they will pay for her 2 years at the community college, Southeast Community College, one of the couple that are left.

So business is trying to figure out a way around this. But we have identified this, and Jan has particularly been dogged on this issue, what can we do in Congress to make sure that those folks coming out of high school today have the requisite skills to walk into any manufacturing and have a job and can be successful in that job?

Why it is so important is, A, I think just our basic economy. If we aren't making things, then where -- where is our middle class going to come from? Historically the middle class has come from the manufacturing sector. Everyone that testified, the small foundry in Jan's district or the fabricator in my district, they walk in in Omaha, Nebraska, and start at 40,000. We learned in the automobile industry and the steel industry, you walk in, you are earning $77,000 to 80,000 with those skills. That is what built America, that is what builds our economy, and that is what builds families, frankly. That is a successful family when they can walk into a manufacturing plant and earn 70- or $80,000 a year.

So we need to get that back in this country. The Great Recession,

we lost 5 million manufacturing jobs. Fortunately, we have regained 500,000 of that, mostly through the energy, steel, automobile industries. But a question lingers: If we can successfully get 4.5- new manufacturing jobs in this United States, how do we get the labor? So while this strengthens families and provides hope for people with -- that don't want to go to school that -- to college that they can have a successful job and raise their families, and meet their expectations, where are those people going to come from?

And so we have educators here today. We have a variety of people that are involved in STEM education, because all of the folks, manufacturers who have testified before this said it really comes down to our STEM education in the United States.

So I want to thank all of our witnesses, and I am going to yield to -- or recognize, not yield -- recognize our ranking member of the subcommittee, who has probably at least once a week since we started this saying, when is our STEM hearing? Jan Schakowsky.

[The prepared statement of Mr. Terry follows:]

******** COMMITTEE INSERT ********

Ms. Schakowsky. And here we are. So thank you very much, Mr. Chairman.

I want to thank all of our witnesses that are here today, but I take special pride in welcoming Dr. Laz Lopez, who I would like to say is a friend, but also, since I have met him, as an outstanding educator. Before taking over as now associate superintendent for teaching and learning for School District 214, Dr. Lopez spent 6 years as principal of Wheeling High School, a neighborhood public school. He implemented the STEM for all initiatives, ensuring that all students graduate with a Diploma Plus, so that they can compete for 21st century jobs. Over his time as principal, Wheeling High School set the highest ACT scores in the school's history and improved its performance on Advanced Placement tests.

Wheeling High School is recognized for its outstanding STEM program by our Governor Pat Quinn and many educational organizations. Last year Dr. Lopez was recognized as the Illinois Principal of the Year. And I am so glad to have him here, and I know his insight is going to be tremendously valuable as we consider how to prepare our students for the jobs of tomorrow. With total respect, I say, if Wheeling High School can do it, we can do it everywhere in this country.

In our previous hearings the series of "Nation of Builders," we have heard from home builders and steelmakers and automakers and other manufacturers. Many witnesses have expressed a demand for more

American workers who are able to handle the advanced manufacturing jobs of the future, really of today and the future, jobs that require STEM literacy. A well-educated workforce is a basic requirement for a strong domestic manufacturing sector. The U.S. manufacturing sector is growing, but that can't continue if we do not adequately prepare our workforce especially as we face increased competition from nations around the world.

My congressional district is home to the Illinois Science and Technology Park, where innovative companies are hard at work developing nanotechnology, biotechnology, and flexible electronic products, among others. Those companies represent the future of advanced manufacturing in America, and their employees have to have strong STEM backgrounds.

The State of Illinois has been a leader in STEM education and training through the State's Illinois Pathways Race to the Top program. The Illinois Science and Technology Institute was chosen to lead a learning exchange focused on STEM education. The learning exchange will last 3 years, allowing students and their teachers to work collaboratively with businesses -- I think that is a key to the program I hope we will hear more about -- to improve STEM education and expand opportunities for hands-on STEM experiences for students.

The Federal Government has also played a role in STEM. The Obama administration has made significant efforts to develop tomorrow's

workforce, engaging in public-private partnerships to improve STEM, encouraging more girls, women, and minorities to pursue STEM courses and careers, and recognizing and rewarding the best teachers in the STEM fields. Congress has supported STEM training through the passage and reauthorization of the America Competes Act, among other efforts. And I am hopeful that the bipartisan focus on STEM that you are going to see here today will continue.

I think we all agree that preparing today's students for tomorrow's jobs should be a priority. I look forward to hearing from our witnesses representing high schools, universities, large corporations, and small businesses that are leaders in STEM education and employment. I hope to learn about how their successes can be replicated, and how their remaining challenges can be addressed.

I really am hopeful that this subcommittee is going to take the lead; that we are going to provide a blueprint for the rest of our colleagues, for the rest of the Congress, on how we can meet the challenges of our students, of our businesses and of our economy in the United States.

Thank you, Mr. Chairman.

Mr. Terry. Thank you.

[The prepared statement of Ms. Schakowsky follows:]

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Mr. Terry. Now recognize the gentleman from New Jersey, the vice chair of this subcommittee, for his 5 minutes.

Mr. Lance. Thank you, Mr. Chairman, and good morning to the distinguished panel. I apologize if I am in and out; there is also a Health Subcommittee hearing this morning. But let me say I consider this to be an extremely important topic to the future of the Nation. And this is the way Congress should work, in a completely bipartisan fashion, because we are all deeply concerned about this issue, and it affects the middle class, and we all want a strengthened middle class.

The so-called STEM, science, technology, engineering, and math sector, plays an integral role in New Jersey, the State I have the honor of representing. According to a study commissioned by the Public Policy Institute at Georgetown, New Jersey will need a total of approximately 248,000 STEM jobs by 2018, up from approximately 223,000 in 2008. This represents an 11 percent increase in STEM jobs, and 93 percent of these jobs will require postsecondary education and training.

In New Jersey's Seventh Congressional District, the STEM field plays a particularly important role in the economy. The pharmaceutical, telecommunications, and manufacturing companies in the district I serve employ STEM graduates. Institutions such as Union County Magnet High School prepare students to compete for these high-paying, high-quality STEM jobs.

However, despite the gains of manufacturing jobs the United States has seen recently and the increase of STEM jobs, there are many questions as to whether or not we will be able to meet the demand for STEM jobs in the future. Hence, today we examine the skills gap the United States faces between the number of qualified STEM candidates for jobs and the vacancies employers have for these jobs, a gap that is almost certain to widen if a solution cannot be found. This gap threatens the ability of the United States to compete with other countries around the world in these important fields now and certainly in the future.

Today's panel is distinguished in academic, manufacturing, and technological worlds, on the front line to narrow the skills gap in this country and realize the Nation's vision of being at the forefront of 21st century innovation. I look forward to hearing from your perspectives on this critically important issue, and I am certainly welcome to yield time to Mr. Bilirakis from Florida.

[The prepared statement of Mr. Lance follows:]

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Mr. Bilirakis. Thank you so much. I appreciate it.

Thank you for holding this hearing as well, Mr. Chairman.

Successfully training the builders of the future is vital to the economic well-being of our country. This training should focus on in-demand industries; enhance opportunities for individuals to be placed in quality, well-paying, private-sector jobs; and respond to the needs of employers so economic growth can be sustained. One area of promise is on-the-job training and apprenticeships for students.

Earlier this year a delegation of leaders from the business and economic development communities in the Tampa Bay area visited Germany to learn how that country's dual vocational and apprenticeship program successfully connects students at technical training facilities with job-creating companies. That delegation brought back some important lessons about helping the future Tampa Bay workforce compete in a global economy. If young Americans can simultaneously acquire job experience, technical training, and work ethic lessons while completing their education, it is my belief that the American economy will continue to prosper.

As a father of four sons who will soon be entering America's workforce, I am interested in exploring how we can help equip our younger generations with the necessary tools for success. I welcome thoughts from our panel today -- thanks for being here -- on how to provide students with the crucial technical skills and professional

work experience at earlier stages in their education.

Thank you, Mr. Chairman, for holding the hearing, and I yield back.

Mr. Lance. Thank you.

[The prepared statement of Mr. Bilirakis follows:]

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Mr. Lance. And I yield the balance of my time to Mr. Johnson of Ohio.

Mr. Johnson. Thank you.

And, Mr. Chairman, thank you for holding this hearing as well.

I represent a region of Ohio, Appalachia, Ohio, that has been devastated with the loss of its manufacturing base. Steel industry has pretty much left, and of my 18 counties, 14 of them are in the top one-third of Ohio's highest unemployed counties in the State. So jobs and the economy are a big thing to the people that I represent.

There is a prosperity boom coming, though, with oil and natural gas, and trying to stay on the front side of that curve and provide the education that our young people need to prepare them for those kinds of jobs is a big challenge. So workforce development is huge. There is not a week that goes by that I am in my district that I don't get questions about how can my son or daughter prepare themselves for some of these oil and gas jobs. And as manufacturing begins to come back and take advantage of that nearly boundless source of energy, the opportunities are going to be there. I want to make sure my young people are ready to go.

So thank you, Mr. Chairman.

Mr. Terry. Thank you.

[The prepared statement of Mr. Johnson follows:]

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Mr. Terry. I now recognize the gentleman from California for 5 minutes.

Mr. McNerney. Thank you, Mr. Chairman. I appreciate you holding this hearing today.

Mr. Johnson took away some of my fire here, but there is an interesting trend happening. Because of increasing production of oil and natural gas, manufacturing is beginning to move back to this country from other sources, from other places. That is a tremendous opportunity for us, but if we don't have a skilled workforce, we are not going to be able to take full advantage of that opportunity.

Now, putting environmental concerns aside, we want -- for the time being, we want to make sure that there is enough workforce out there. So your input is appreciated. The cooperation across the subcommittee and the full committee is appreciated.

And with that, I am going to yield to the ranking member.

[The prepared statement of Mr. McNerney follows:]

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Ms. Schakowsky. Thank you. Just a minute more.

I think, as the chairman alluded, I am sort of obsessed about this issue. But I also want to make an observation. You know, the hearings that we have in this committee and other subcommittees, often the room is full, and cameras are all over the place mainly documenting conflict, one side of the aisle and the other.

I happen to think that cameras ought to be loaded in this room; that this is where it is at for our country right now, that the kind of work that we are trying to do and to establish a framework of how government -- how we -- can be a partner to make our economy boom right now, and prepare our students, our American students, for the jobs of the century. And I hope -- I said earlier that we can press forward with this kind of bipartisan effort to put it front and center. So I don't want to take any more time from our witnesses other than to just say how important I think your presence here today is and how important you are to our country. Thank you.

Mr. Terry. I would -- I think all of us echo that. That was very good, Jan.

So at this point we are going to start our testimony from our grand witnesses here. We have Jennifer McNelly, president of the Manufacturing Institute; then next to her, Allyson Knox, director of education policy, and programs with Microsoft. Then we have Sandra Westlund -- is it Deenihan?

Ms. Westlund-Deenihan. Yes.

Mr. Terry. Chief executive officer, Quality Float Works Incorporated; Lazaro Lopez, that Jan mentioned in her opening statement. He is associate superintendent for teaching and learning, Township High School District 214, State of Illinois -- not Illinois; Catherine Hill, Ph.D. director of research, American Association of University Women.

I thank all of you for being here and sharing your expertise and insight.

We give each witness 5 minutes. At 5 minutes, there's a sign up here that if it is a red light, I am going to start tapping the gavel, and that means sum up quickly.

So, and we will go from Miss McNelly -- Nelly? Neilly?

Ms. McNelly. Nelly.

Mr. Terry. To Dr. Hill.

And now you are recognized for your 5 minutes, Ms. McNelly.

STATEMENTS OF JENNIFER MCNELLY, PRESIDENT, THE MANUFACTURING INSTITUTE; ALLYSON KNOX, DIRECTOR, EDUCATION POLICY AND PROGRAMS, MICROSOFT CORPORATION; SANDRA WESTLUND-DEENIHAN, CHIEF EXECUTIVE OFFICER, QUALITY FLOAT WORKS INCORPORATED; LAZARO LOPEZ, ED.D., ASSOCIATE SUPERINTENDENT FOR TEACHING AND LEARNING, TOWNSHIP HIGH SCHOOL DISTRICT 214, STATE OF ILLINOIS; AND CATHERINE HILL, PH.D., DIRECTOR OF RESEARCH, AMERICAN ASSOCIATION OF UNIVERSITY WOMEN

STATEMENT OF JENNIFER MCNELLY

Ms. McNelly. Thank you, Chairman Terry, Ranking Member Schakowsky, Vice Chairman, and members of the committee. Thank you for the opportunity to testify today on behalf of The Manufacturing Institute, the national authority on the attraction, qualification, and development of world-class manufacturing talent, an affiliate of the National Association of Manufacturers.

Manufacturing remains an important economic force in regions across the country, but confronts a serious challenge: access to talent. In our most recent skills gap report, 82 percent of manufacturers report a moderate to serious shortage in skilled production labor. Today companies, especially smaller businesses with fewer training and HR resources, cannot afford the luxury of

time-intensive training programs for their workers. They need employees who have knowledge and skills and can contribute right away.

The best way to address this challenge is to align education, economic, workforce, and business agendas. As representatives of the manufacturing industry, we found a solution that meets the needs of our businesses, while working within the existing secondary and postsecondary education structure.

Our solution, called the Skills Certification System, is a series of nationally portable, industry-recognized credentials based specifically on employer-identified skills. These credentials, used by companies across the country, clearly lay out a training required for a career in manufacturing.

However, success is not attained merely by designing a system; it must create results. In the past 2 years, we have helped to ensure that employers have access to over 173,000 individuals with the needed skills to enter into and advance in manufacturing careers. In our Return on Value survey, over 90 percent of the manufacturers using certifications believe they make a difference in validating the skills of their employees.

These outcomes are what we need to support and strengthen manufacturing and put individuals back to work, but we can't certify workers without a pipeline.

In addition to skill certification, we need to address the common

misperceptions about manufacturing. While 7 out of 10 parents want manufacturing in their community, only 3 out of 10 want their children to be that manufacturer. We need to make manufacturing cool again.

On October 4th, over 800 of our Nation's manufacturers opened their doors on National Manufacturing Day and invited parents, students, teachers, and counselors in. One of those manufacturers is T.R. Raimondo of Behlen Manufacturing in Columbus, Nebraska. Behlen is addressing the image issue by engaging its employees under the age of 30 as the voice of manufacturing to the next generation of job seekers. T.R. is leading Dream It. Do It., a community-based network that aims to promote manufacturing as a top-tier career choice. With over half the country engaged in Dream It. Do It., the network is working to attract the next generation of workers.

The Manufacturing Institute is also targeting midcareer workers, including veterans and women, people like Daniel Brewer, a Cincinnati native who entered the Navy after graduation and received aviation electrical training. After deployment in Afghanistan, Daniel returned to civilian life with no formal job training and drifted from job to job. In February, Daniel joined the inaugural class of Get Skills to Work at Cincinnati State Technical and Community College and participated in a 4-week skill-certification program, ending as a certified production technician. Daniel's training and participation in Get Skills to Work led to employment with GE Aviation.

For many years postsecondary success was defined as a 4-year degree, when, in fact, a valid industry-based credential can be the gateway to a well-paying job and a solid middle-class career. As a Nation, we need a new strategy for our manufacturing workforce grounded in industry standards with a new and renewed cooperation between industry, education, economic development, and the publicly funded workforce investment system. We need men, women, and children to view manufacturing as a top-tier career choice and have a path towards that career. Developing that path is good for manufacturing and good for the Nation.

Thank you for the opportunity to testify today. We look forward to working with you to build the next generation.

Mr. Terry. Thank you.

[The prepared statement of Ms. McNelly follows:]

******** INSERT 1-1 ********

Mr. Terry. Ms. Knox, you are recognized for 5 minutes.

STATEMENT OF ALLYSON KNOX

Ms. Knox. Good morning, Chairman Terry, Ranking Member Schakowsky, and all the members of the subcommittee. Thank you for exploring the national skills gap and for inviting me to be a part of these hearings.

My name is Allyson Knox. For 10 years I worked in the fields of education, workforce development, and economic development in Michigan at the local, and regional and State levels. Nine years ago I began my work for Microsoft and currently serve as director of education policy and programs.

This morning I would like to focus on the skills gap facing this Nation, particularly in respect to computer science, ways in which Microsoft is addressing these challenges, and conclude with brief recommendations.

Each year for the next 10 years, this country will generate 120,000 jobs requiring a bachelor's degree in computer science, while at the same time our country graduated just 52,000 students with a bachelor's degree in computer science last year. This deficit of 70,000 degrees annually defines the challenge facing not only Microsoft, but all industries.

All companies are software companies. Think of it. In manufacturing we need people who can design and use simulations to improve products. In health care we need people who can explore vast quantities of data produced by DNA sequencing techniques. In the arts we need people who can design new special effects for movies.

Through numerous public-private partnerships, Microsoft is working to ensure that all students have the skills to compete in the global economy. There are three in particular that I would like to highlight for you this morning. First is our initiative to broaden access to computer science education at the high school level. Today only 8 percent of high schools in the U.S. offer AP computer science courses, and just 2 percent of all the AP exams taken last year were in this critical subject area. This is in part driven by the fact that only 15 States reward students who take computer science with a credit that will help them graduate from high school.

We are working with Governors and legislators across the country in order to expand the number of States that recognize the importance of computer science courses. At Microsoft we are also partnering with schools to help increase the number of students who take AP computer science exams through our TEALS program. "TEALS" stands for Technology Education and Literacy in Schools. TEALS places computer science professionals in the high school. TEALS volunteers to teach basic and Advanced Placement computer science courses with teachers.

Today the TEALS program is operating in 70 schools in 12 States. This school year more than 280 volunteers will teach 3,000 students, and this model continues to grow very rapidly.

A second initiative called Partners in Learning supports all teachers as they help students integrate technology into their learning. This is a 15-year, $750 million worldwide commitment. Over the last 10 years and in the United States, Microsoft invested $50 million in specific Partners in Learning programs, such as the Innovative Teachers program, the Partners in Learning Network, Innovative Schools, the Microsoft Innovative Educator program. We have reached 1 million U.S. teachers and students through this initiative.

The third initiative is called the Microsoft IT Academy program. This program ensures that students and adults can access technology certifications. ITA is designed to provide students and adults with college and career-ready technical skills, including network administration, databases, and collaboration skills. Its 250 courses are offered online, in person, or a hybrid version. Microsoft works directly with State government leaders to systematically deploy the ITA program to citizens throughout the State.

To conclude, there are three areas we hope Congress continues to focus on: number one, support teachers. Through our partnerships we see firsthand the dedication and determination of teachers striving

to help their students be successful. And while we commend the States for aligning K-12 standards to skills necessary for college and careers, we recognize that teachers and schools need additional support.

Number two, help students complete postsecondary education. Our Nation must also address the fact that too few students enter STEM subjects in college, and of those who do, too few are successful in completing that degree. We need more of a national focus on helping students enter and complete these subject areas.

Number three, strengthen our job -- our Nation's job-training system. The fact that so many individuals are unemployed while employers simultaneously face such difficulty in finding the right skilled workers to fill a variety of high-paying jobs points to a skills mismatch that must also be addressed through better integrated technical career and job-training systems.

I have elaborated on these recommendations in my written testimony, and I would be happy to discuss them in more detail during questions and answers. Thank you again for the opportunity --

Mr. Terry. Appreciate that.

Ms. Knox. -- to testify, and I look forward to your questions.

Mr. Terry. Thank you, Ms. Knox.

[The prepared statement of Ms. Knox follows:]

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Mr. Terry. Ms. Westlund-Deenihan, you are now recognized for your 5 minutes.

STATEMENT OF SANDRA WESTLUND-DEENIHAN

Ms. Westlund-Deenihan. Thank you, Chairman Terry, Ranking Member Schakowsky, and distinguished members of the committee. Thank you for the opportunity to appear today to testify on behalf of Quality Float Works Incorporated at our hearing on "Our Nation of Builders: Training the Builders of the Future." My name is Sandra Westlund-Deenihan, and I am the CEO and design engineer of Quality Float Works Incorporated, the premier manufacturer of floats and assemblies used in gas, oil, plumbing, and agricultural applications across the globe.

In 1915, my grandfather started a manufacturing company out of his home on the southwest side of Chicago. Today, more than 98 years later, our company remains a third- and fourth-generation, family-owned-and-operated business. I run the company, and my son works with me, Jason Speer.

Our company currently exports its products to such locations including Europe, Asia, Australia, and several locations throughout Latin America and the Middle East. In fact, in 2013, we were honored by the U.S. Small Business Association as Illinois' Small Business

Exporter of the Year. And I am happy to report that due to our efforts to diversifying and -- and expanding globally, Quality Float Works is thriving. Overall sales have increased roughly 200 percent over the past decade, with international sales skyrocketing from 3 percent to 37 percent of our business.

So "Quality" isn't just in our name, it is also in our product. Our floats are engineered to the most exacting standards and built with the know-how of skilled craftsmen. Moreover, we custom-design many floats and have a built -- a best-in-class reputation among customers and the industry.

To maintain this level of quality, we need a workforce with the skills and the knowledge to understand precision instrumentation and production. Our customers demand and expect precision manufacturing, and precision manufacturing requires a basic knowledge of STEM competencies, science, technology, education, and math, yes, even for the entry-level worker. It always amazes me how many times I have had to teach a member of my team how to use a ruler, utilize fractions and decimals, and if I didn't have a digital clock on the wall, they might not know how to tell time.

The skills gap is real and poses a serious economic threat to American competitiveness. The bottom line is if we as employers cannot find qualified applicants for jobs, it impacts our business and our profitability.

Please understand, this is not just about educating students to fill our positions; it is also about making sure our children have the opportunity and the tools to get a quality education, a good, high-paying job, and the ability to achieve their dreams and to become self-sufficient. Unless we and the industry leaders engage ourself personally in the solution, nothing is going to change.

It would be easy for me as the CEO of a company to complain about the quality of the applicants, blame the education system, and put the onus on someone else to fix it, but I know that is not going to change anything. We need to find solutions that get results, both short and long term. We need to partner with our schools to create a system that meets the immediate needs of employers today, adequately trains and prepares the workforce of the next 5 to 10 years, establish a solid educational foundation for our children, and mentor young people on the benefits of manufacturing and STEM careers.

It is for this reason I am excited to be serving on the newly created National Association of Manufacturing Board of Directors Task Force on Competitiveness and the Workforce. Our mission is to take a serious look on the workforce problems, skills gap, and STEM education programs across the country. And I am proud to be working with the NAM on this effort, as the organization is truly committed to the success in this area.

Modern manufacturing is no longer a dirty job, but as a leader

in the industry, we need to get our hands dirty to fix the skills gap problem. Industry-recognized credentials and mentoring, business leaders need to get engaged with educators. Those are two approaches that are working for me in Illinois. Quality Float Works may be a small business, but we are determined to make a large impact by changing our education and skills pipelines to create more opportunities for the next generation of the United States workforce.

Thank you very much.

Mr. Terry. Thank you.

[The prepared statement of Ms. Westlund-Deenihan follows:]

******** INSERT 1-3 ********

Mr. Terry. Dr. Lopez, you are now recognized for your 5 minutes.

STATEMENT OF LAZARO LOPEZ

Mr. Lopez. Thank you, Chairman Terry, Ranking Member Schakowsky, and members of the subcommittee.

The High School Survey of Student Engagement conducted by Indiana University has surveyed now more than 350,000 students across 40 States and found what parents of teenagers already know, that many of them are bored. So when Wheeling High School was redesigned as a comprehensive high school with a STEM focus, we wanted our school to be engaging by being relevant to our students in a way that prepared them for life beyond high school. So to engage students from the moment they enter our school, our conversations had to change. We didn't ask them, what do you need to graduate? Rather, we asked, what do you want to do with your life? And the answer to that question serves as the basis from which a school can embrace each student through the purposeful selection of electives within a career pathway, provide cocurricular activities that supports them, and partner with local businesses to facilitate external experiences that inform, all before they graduate high school.

By graduating students with a Diploma Plus, the choice is theirs to make. Whether the student transitions directly to a 2- or 4-year

college, trade school, the military, as I did, or begins a meaningful career out of high school and returns to school at a later date. The student is in control because they have options.

There are three nonnegotiable principles that drove the work in the development of these pathways: One, a sequence of courses that led beyond high school on each one; external experiences that provide students a real-world understanding of career areas through internships, problem-based learning experiences; and, three, an opportunity to earn college credit or an industry certification. Students graduating with a Diploma Plus leave high school more competitive, already building her or his resume.

In examining the value of the career pathways as an effective education model, we want to understand how it impacts students. So I want to talk to you about Francisco. Francisco grew up in one of the tougher parts of town. He got into his first year of trouble throughout his time at school, and the deans all knew him by name. His teachers knew he was smart, but his path to graduation was far from assured; that is, until Francisco discovered the school's manufacturing program where something finally clicked.

Francisco worked extremely hard, staying after school at least 3 days a week to get one-on-one time on the machines. Francisco took the MSSC and NIMS certification exams, earning entry-level credentials, and he landed his first job at Holbrook Manufacturing in

Wheeling. And since his graduation last December, after 4-1/2 years in high school, Francisco is regarded by Holbrook as a model employee. And today Francisco is thrilled about being in manufacturing. He was proud to share with us that he's able to contribute financially to his family, noting that he was actually making more money than his mom. He's had multiple raises in the last 6 months and has already bought his first car. And he plans now to continue his education at Harper College and earn an associate's degree specializing in CNC machining.

Now, while some students enter high school at risk, others may be successful academically, but need direction in discovering and fostering that passion. So think of our own college experience and how anxious you were to get to your major coursework. If we can connect the dots between what students are excited about in their future and the classes they take today, students are more engaged in class, more motivated to do the work, and more likely to challenge themselves with rigorous coursework, such as honors or Advanced Placement. We know students who self-identify with a specific career in mind prior to leaving high school are 80 percent more likely than their counterparts to earn a certification or degree 6 years post high school.

So in this other example, Mallory entered the engineering/manufacturing program with a small spark of interest in how things are made. Her experiences in the Project Lead the Way Computer Integrated Manufacturing class; Robot Rumble, which we host

locally; and the opportunity to design and manufacture her ideas into reality led her into an internship at Swiss Precision Machining. Even as she currently attends the University of California pursuing a degree in aeronautical engineering, she returned to Swiss in the summers to work, and she informed her teacher that it was one of the greatest opportunities she had; that in the summer, she did a lot of price quoting, figured out the most efficient way to machine parts, and she actually got to run the machine.

Today Mallory boasts an internship with the Air Force Research Laboratories in California. She says, "I feel like the biggest reason why I got that job was because of the machining experience I had. My boss was impressed with that opportunity at Swiss."

So the goal at Wheeling High School is to make the school relevant. That is why we house a state-of-the-art manufacturing facility, a hospital lab with a senior care facility, a nanotech research lab, and currently developing a business incubator lab. Our goal is to maximize the value of their high school experience.

And the work is scalable. Keep in mind, Wheeling High School is a nonselective Title 1 public school with a poverty rate now at 45 percent, and over half the incoming freshmen identified at risk. That means more than half are coming in at about a fifth-grade reading and math level. Yet in the last 6 years, we have grown by 80 percent and 24 AP courses, and ranked as one of America's best high schools, and

designated as the national model for manufacturing/engineering education, with an SME prime designation.

School leaders must develop public-private partnerships that bring the outside world into the school and give students authentic, real-world experiences to practice 21st century skills in the context of their future. That was Francisco and Mallory's journey and the pathway out of boredom for students at the 24,000-plus high schools across America.

Thank you.

Mr. Terry. Thank you.

[The prepared statement of Mr. Lopez follows:]

******** INSERT 1-4 ********

Mr. Terry. And our last witness before questions, Dr. Hill, you are recognized for 5 minutes.

STATEMENT OF CATHERINE HILL

Ms. Hill. Thank you. Chairman Terry, Ranking Member Schakowsky, and remembers of the committee, thank you for this opportunity to speak with you today about the Nation's future workforce. My name is Catherine Hill, and I am the director of research at the American Association of University Women, and those university women include many community college members as well.

Mr. Chair, I would like to request that our report, "Women In Community Colleges: Access to Success," be entered into the record.

Mr. Terry. So ordered; no objections heard.

[The information follows:]

******** COMMITTEE INSERT ********

Ms. Hill. On behalf of our 170 members and supporters, I am pleased to share our perspectives with you today about this very important part of our educational system, including over a third of the college students today who are at community colleges. And more than -- more and more, we are seeing the students attend directly to community colleges, and that part of the student body is growing. Echoing a comment made earlier, we are going to need to make manufacturing cool to these new community college students, including women, who often see manufacturing as a guy thing.

Science, technology, engineering, and math is often discussed in terms of the college-educated workers and the Ph.D. workforce, but STEM is much more than that and includes many middle-skilled jobs, as you no doubt know. And to keep our competitive edge, we need to use all of our brainpower to fill these positions, including both men and women. Too often women aren't at the table, not at the lab, not on the manufacturing floor or the construction site, and we do need to change that.

AAUW believes that the community colleges could play a critical role in moving women into these roles and ending the shortage of women and workers in these STEM fields. By engaging our educators today, we are going to better be able to reach builders of tomorrow.

Women are nearly half of the U.S. workforce; they are only about a quarter of the STEM workforce. And women make up a very small

fraction of many of our skill trades, such as electricians and mechanics. And many of these job, these middle-skill jobs, require either a little more than high school education, but less than a bachelor's degree, and there are about 29 million of these jobs in the country today. And we have many graduates coming into those positions, but we need more. Obviously, the career and technical system that trains people for this kind of a job is going to be really critical for our future.

So there are two major problems I want to mention today. One is that employers often discuss this mismatch in preparation and skills. And, second, we have very few women being prepared for some of these jobs.

Community colleges can provide solutions to both of these challenges. Workforce development has always been at the center of community colleges' mission, and they are well situated today with growing populations to be able to help serve this function in the future.

We see gender segregation at community colleges just as we do in the workforce, particularly in the STEM fields and some of these middle-skill credentials, and we know that community colleges can do better. Some of the research that we did found that community colleges are an especially good training ground for STEM and nontraditional fields. And we found that actually more women use community colleges

at some point in their path to a STEM degree than men. So these are especially important to women, and I think that cost is a big part of that picture, because you can take a few classes inexpensively in a community college before making a commitment to the field. And this is important for people who are somewhat unsure of the field, but might, in fact, become very successful as they learn more about it.

There are a number of ways that we can reach out to women, recruiting them into some of these new programs. That includes things like childcare services, supportive learning environments, participation at a number of other kinds of events. We have more of these information on these recommendations in our report and in our written comments.

One last hurdle I wanted to mention before closing. Community colleges do not have the same level of data -- data-rich information at we have for our 4-year programs. Our IPEDS data, our Federal data sets, don't cover all of the students in community colleges. And in particular, they have not been good in the past in talking about part-time students, who are a majority of our community college students.

If we want to know how community college students are faring, we need to know about all of the students at community colleges throughout their careers; so those are who part time, those who are full time, those who take longer than 2 years, and those who take even up to 4

or 6 years, and also those who transfer. We are getting better in this area, but it is something that we desperately need to see more work done so that we can better understand the program and better evaluate the programs so we know what is working.

In closing, I would like to say the community colleges are critical for educating the workforce in our manufacturing and building fields, and they are especially important to women who benefit from these opportunities that are not traditionally considered appropriate for them. If we want to build a strong future workforce, we need to ensure that both men and women are at the table and at the construction site.

Thank you for this opportunity, and I am happy to take your questions.

Mr. Terry. Thank you, Dr. Hill. Appreciate your testimony.

[The prepared statement of Ms. Hill follows:]

******** INSERT 1-5 ********

Mr. Terry. It is now our time to ask you questions. Each Member has 5 minutes to ask questions and have a colloquy with whoever they choose to ask questions to.

So I am going to start off with more of a general question, but set up by Ms. Knox with your -- within your testimony was some alarming statistics about the lack of computer science teachings within our schools. But there also seems to be, at least looking around where I live, a lack of teaching trade skills anymore. And it comes back to what Ms. McNelly said in that we have become a culture that says basically -- and I will admit I am guilty of this with my three sons. Since they have been able to talk, I have asked them questions like, "What college are you going to?" We have this culture that if you are a high school, and you are not placing X amount of people in great colleges, then you are not a good high school. Or community colleges that are now advertising come to us, and we can provide you the affordable first 2 years, get all of your basically basic core college classes out of the way cheaper, and have pushed some of the trade education that was once within their jurisdiction out to make room for the more affordable 2 years of college.

So how do we break through this attitude that parents have, that has permeated into both our K through 12 and our community college? So, Ms. McNelly, I wanted you to say something, and then I am going to come back to Dr. Hill and then Dr. Lopez.

Ms. McNelly. Thank you, Chairman Terry.

I think there was a common theme here in measuring what matters. And actually to your point that not just parents do we have an expectation, but equally within counselors, how they counsel students as to what an important performance outcome is. And I do think within the jurisdiction of Congress there should be a way in which to look at what performance outcomes in an education environment actually truly mean, to Dr. Hill's point that somebody who's a part-time student and actually is working full time or gets an industry-based credential and gets a job is actually considered a negative outcome within the education system. Therefore, it is shadowed either in on -- off on the side without credit, customized job training, or it is considered a negative impact.

And I think there probably is some action that could look at connecting the data points and what defines success, because certainly from a manufacturing perspective, you measure what matters. And if getting a job matters, then we need to be able to count that, too.

Mr. Terry. Well, I appreciate that.

Dr. Hill, particularly focusing on the role of community colleges and maybe the trend away from tech, technical skills.

Ms. Hill. Absolutely. I will point -- you are absolutely right that people are now looking at community colleges as the inexpensive first 2 years of their 4-year programs. We also want to see our

associate degree programs and our certificate programs to be well utilized. And I think you do have a level of -- little bit of a PR problem maybe where we need to start talking about those credentials with greater -- I will say the word "respect," and seeing those as really adding and contributing to our societies.

Mr. Terry. Can a community college be both a tech school and the first 2 years? In a way, don't those themes conflict with each other, at least through public perception?

Ms. Hill. Certainly. There is a wide variety of community colleges in our systems. And as I am sure most of you have interacted with various community colleges throughout your careers, you can see that some -- they really try to talk about the current work site -- work needs -- workforce needs in their communities. And this new system -- we do ask our community colleges to be all things to all people, and sometimes we may need to make some hard choices.

Mr. Terry. Well, I -- I respect that.

I am going to unfortunately not have time for you, Dr. Lopez, but I think that this is an important area, and you will get asked a lot of questions on it. But I will get one editorial comment in defense of community colleges, and I think the -- what -- the movement to being the first 2 years is an unintended consequence of how high tuition rates have really become.

At this time I recognize the Ranking Member Jan Schakowsky.

RPTS HUMISTON

DCMN HERZFELD

[10:35 a.m.]

Ms. Schakowsky. First I want to say to Ms. Westlund-Deenihan, I should have been welcoming you as an Illinois manufacturer, but -- and close to my district, not in it. But I think one of the things -- points that you are making that instead of importing workers, we need more companies that export products made by American workers, I am hoping I can rely on you in -- in my district to talk to some of my smaller businesses about exporting and how we can -- that would be great.

Dr. Lopez, I wanted to talk to you about Wheeling. I am thinking -- as you talk, I am thinking about other high schools that are -- that are in my district and going into them, and I am not seeing laboratories, I am not seeing machines. You are a Title 1 school. This is not a privileged school. How did you manage to bring in the nanotechnology lab? I know that Secretary Duncan came to visit you last month. How can I help the other schools in my district to develop for their students who fit your demography pretty well to have the same kinds of things?

Mr. Lopez. You know, the first thing I would say is the reason we have the facilities, certainly they are -- they are great to have and they are cool, but the real reason is is because we need to bring

the outside world in, especially in the communities who "I don't have an uncle who is an engineer, I don't have a family friend that can take me to the hospital." So we need bring that into the schools. So that really was a driving factor, and also exposing kids to what is possible. When you live in a secluded environment, and all you know is your neighborhood, you don't know what is possible.

Ms. Schakowsky. Well, where are the resources to bring it in?

Mr. Lopez. So in order to pull that -- what I will tell you is that I am a second-career educator and spent a lot of time in business, and what I did is -- you have to partner. You have to go out and tell your story to every business and every government agency that will listen to you. So we partnered with the Department of Commerce and Economic Opportunity, and they did invest heavily in our facilities and I know they are willing to --

Ms. Schakowsky. That is an Illinois agency.

Mr. Lopez. That is an Illinois agency, Illinois Department of Commerce and Economic Opportunity. As well as the Illinois Science and Tech Coalition, who is a private foundation supporting science technology -- science and technology development in Illinois, who have a vast array of industry partners that -- that can come to bear and help support through experiences and internships.

But I will also say that you have to believe that absolutely anything is possible, and you have to go out there as a -- I have to

undermine -- or I have to emphasize the role of the school leader. They have to go out there, and they have to sell their school, and they have to make it happen, and -- and they have to bring those businesses and sell them that their students can provide a win-win relationship with them so that they have an opportunity to partner and have future employees for their companies.

So there is --

Ms. Schakowsky. So you said that it is scalable, meaning --

Mr. Lopez. Yes.

Ms. Schakowsky. -- that it is not just the fact that you are such a dynamic leader, but that -- that we can do this in other places.

So how do we teach the leadership of these schools to be able to do this?

Mr. Lopez. You know, what I will -- what I will say is that the school leaders today really need to be sensitive and understand the economic realities in their community and then in their broader region so that they know what are the strengths of that community, and that is what you begin to build on.

And so we do need our school leaders to recognize that they don't work in a vacuum anymore. It is not about giving the kid just a high school diploma; it is about preparing them for life. So they have to be engaged with the same network of Chambers and business communities so they know what they can do so that their kids have a future once

they leave, and -- and be creative, and think outside the box, and believe and make things happen. And I think it is certainly possible.

Ms. Schakowsky. Okay. Ms. Knox, I -- looking at -- your written testimony has so many -- so much, it is just a wealth of information. One of the charts I am looking at, 15 States that count computer science toward high school graduation requirements, that is really just a few, and I notice my State is not among them. So are you saying that the State boards of education, et cetera, require that? Tell me more about that.

Ms. Knox. In the States that do count it, it is basically the State is rewarding the student with either a math or science credit which is counted toward high school graduation. In the cases where it is not counted in that way, if you were to take computer science as a student, what happens is you receive an elective credit.

Ms. Schakowsky. I see.

Ms. Knox. And in many States, that would be like taking cooking class.

Five of -- there are seven of you here right now, and five of the States don't count it that you represent. And we are actually actively in those States right now with State boards of education, State superintendents. We would love your partnership and help in raising the issue and asking for this simple -- not requirement, this way of rewarding students for -- for taking computer science.

I want to just add that we have had focus groups with students and asked them why they are not taking computer science, and they have said, well, that is where the dumb kids go. And when you ask them, why do you think it is where the dumb kids go, they said, well, I want to go to college, and I need to take as many math classes as possible. This isn't a math class; this is an elective class.

Ms. Schakowsky. Yeah. Let me just say, I don't know if you mentioned in your testimony, that, Ms. Westlund-Deenihan, you are also chair of the Illinois State Board of Education's Gender Equity Advisory Committee, and I would like to talk more -- I am out of time, but I would like to talk to you more about that as well. We do need more girls to take these classes and more women involved in STEM and in manufacturing. Thank you.

Mr. Terry. Mr. Guthrie, you are recognized for 5 minutes.

Mr. Guthrie. Thank you, Mr. Chairman.

And thank you guys for being here. I appreciate it very much.

This is very near and dear to me. I worked in manufacturing before I came here. My family has an aluminum foundry, automotive supply business, and I can tell you what you are talking about, trying to find skilled workers, machinists, tool and die makers, is just extremely difficult to do. And you make real -- they can make really good incomes. And almost of all our managers, like middle-level and some higher-level managers, came to us from a tech school background

and just worked their way through the system of the company. So not only is it good entrance level for wages, but it also is a great forward level rise for wages.

So it is something that has been near to me, and I have got a bill out called the Rebuild Act, which is about American manufacturing, reducing employer burdens, unleashing innovation, and labor development is the -- is the LD part of it. And it is got a lot of different principles or parts to it, but one is the America Works Act, and that we are trying to push forward.

And, you know, a couple -- one thing I was going to ask you, but we are about out of time, so I just want to get straight to the other, is what can the government do, whatever -- how we are getting in the way.

But one thing of it is -- and, Dr. Lopez, I do want to say that I was in the State legislature on the education committee, and tried to find schools that you wouldn't predict being successful that were, because I don't think you point at failure, you try to find success and replicate and scale it, and it was always a school leader. Not saying they didn't have great staff, they didn't have great teachers, they didn't have a great system backing them, but you could have all of that and a poor school leader, and the school was failing. So you -- that is what we have to replicate actually, strong leadership at the school level.

But the one thing that I have always kind of wondered, I cannot walk in a manufacturing plant -- I love to go in them, so I go in every one in my district -- without the manager saying or the human resources person, we cannot find skilled labor, we can't find it, we can't find it, we can't find it. And this is like not $10-an-hour jobs; these are the up in the $20-an-hour jobs.

So some -- for some reason in this level of employee, the market is failing, because the market -- the jobs or the supply or the demand is there, they are paying pretty good prices for it, particularly what some of these people get anywhere else, but for some reason the market is failing to develop that skill of worker.

Does anybody have an idea why the market is failing to do that, what is competing with that market, and where these kids are going? Yes. Any of you. I just open up to the --

Ms. Westlund-Deenihan. Well, I would blame that on business, because business has not been talking to the community college in the past and not really telling them what our needs are as far as where are the real jobs are, what -- what curriculum is important and relevant to the workforce.

And I think that addressed something that Chairman Terry said before. You know, if -- why are these being turned away, these jobs? I think a lot of it is responsibility of business. We have not been working with community colleges. It is important for us to talk about

it. In the past maybe we have tried to throw money at it, a scholarship, or we have given some piece of equipment that is -- doesn't have all its parts and is not relevant to real workplace jobs. And it is more important for business to provide -- to mentor, to talk to community college and tell them, you know, regionally what are the skill sets that are needed for the jobs that you have available, provide internships.

And, for example, we even have a -- for high schoolers we provide a program that is a work-study program to have kids that are good with hands on to come in to work -- go to high school in the morning and in the afternoon come and work and get paid to be able to have skill sets so that they will be able to graduate with a vocational training and, you know, go on.

Mr. Guthrie. Yeah. I think Dr. Lopez looks like he wants to answer. But my bill has the -- or the bill that I am working with and am part of, that it is a business majority, the Workforce Investment Board has to be a business majority, business quorum so that when Federal money flows, it is flowing to people -- to say these are the people we want. These are who we are going to put to work and to hire.

Dr. Lopez, I think you were anxious to jump in.

Mr. Lopez. And I will just take a couple of seconds. Can I just say this is a space where Perkins and CTE funding really has had a significant impact at schools being able to buy that equipment and be

innovative, and that that is certainly an area that is needed for support? And schools across the country were closing these facilities down. They were closing their manufacturing facilities. And I think there has been a lot of work by SME and by NAM to encourage high schools to go back and open those spaces and buy modern equipment so that it is relevant, and engaging and available to their local community.

Mr. Guthrie. It is strange, because showing up in a manufacturing plant with no -- maybe just your high school diploma and say, I am here to go to work, it is hard to earn a -- it is hard for a company to afford to be able to -- your productivity level to afford to pay. Those are the jobs that we have lost. But if you show up with a skill --

Mr. Lopez. Yes.

Mr. Guthrie. -- and you can program a machine, you can do -- I mean, you can make a middle-class income in manufacturing today on the factory floor if you have those skills. So that is -- that is great that we are here.

Thanks, Mr. Chairman.

Mr. Terry. I would give you a little leeway, but we have 5 minutes and 12 seconds to go vote, of which Mr. McNerney is going to use 5 minutes of that.

Mr. McNerney. Or less.

Mr. Terry. You are recognized for 5 minutes, and then we are

going to adjourn.

Mr. McNerney. Thank you, Mr. Chairman.

I really appreciated your -- Ms. McNelly's comments about making manufacturing a cool pathway for a career, and I think what Dr. Lopez is talking about helps that. I mean, if you see that as cool, or if you see it as relevant to your life, you are going to put a little more into it. You are going to put -- you are going to be -- make it cool. So we need to hear more about how to do that.

Having your institutes where you can learn about different things that -- that are relevant is very important. It is something that we need to focus on, I think, empowering our schools to do that. Schools in my district that do that are having very -- a good deal of success.

But something that Ms. Knox said is that we need to support teachers. I think we need to make teaching cool, because if we don't get the best teachers out there, then -- if we don't have good teachers out there, and I don't say we don't, but we need the best teachers out there. We need to make teaching cool. So that is something we need to focus on a little bit, too, in my opinion.

Any way we can attain that goal, Ms. Knox? How do we get that support out to teachers? How do we make them feel like that is where they want to be?

Ms. Knox. We have done a little research here, and one of the key areas is that the incoming student to the teacher preparation

program needs to feel that they can actually make a difference. And so there is a campaign that is being launched. It is a public-private partnership among many different players called Teach.Org to attract people into the teaching profession, but also I think we can make sure that we are supporting Title 2 of the Higher Education Act, because there is a piece in there to make sure that teacher preparation is strengthened.

So you want to go into a field -- you want to be attracted to a field where you are not isolated, where there is a career ladder, where that you feel like you can make a difference.

Mr. McNerney. And prestige in the community as well.

Ms. Knox. Yeah. I mean, there are some great books on this right now, "The World's Smartest Kids and How They Got That Way." And there is a comparison of three different countries with the United States, and the way that teachers are revered in other countries and the way they are attracted into the profession is radically different than in America.

Mr. McNerney. I would venture to guess that just about everybody on this committee had a teacher that made a difference in their lives.

Ms. Knox. Sure.

Mr. McNerney. Ms. Hill --

Ms. Hill. Yes.

Mr. McNerney. -- one of the things that I understand is that

there are more women graduating from university now than there are men.

Ms. Hill. Absolutely, yeah, at the 4-year level and at the 2-year colleges.

Mr. McNerney. So -- but there is still a huge income gap.

Ms. Hill. Oh, yes. What we see happening is that women and men are going into different fields, and women are not going into some of these middle-skills fields that they feel are somehow not important or just simply not for them. And one of the things that we do is look at some of the stereotypes and bias that all of us carry around with us, and -- and yet we can ask ourselves to look again at those -- at those biases and help women look at fields that are not traditional for them. And there are a number of different techniques and programs that are helping to do that today at -- among educators as well, and among young women, because, of course, we have these internalized.

But one of the challenges that I wanted to mention in any of these programs is that I have seen community college -- community colleges say that they don't have enough people who want to take these classes in middle-skill jobs, the, you know, electrical jobs and the welding jobs; that they don't have -- and yet -- so they don't offer them, which means that then, of course, people don't look to them to provide those jobs. So someone is going to have to get it started. And I think for women, getting them excited and interested in these programs can be as simple as having -- you know, having them in a brochure.

And this idea of active recruiting is something I want to stress. I think a lot of programs at colleges, professors don't think they need to recruit students. I mean -- and that isn't something that they have done in the past. But when we have areas where we really want more students going into these areas, we do need to recruit them actively.

Mr. McNerney. Thank you, Mr. Chairman. I yield back.

Mr. Terry. Thank you. And that -- wow. That does conclude our hearing. And the committee has the right under our rules to submit questions to you. I don't know if any will be, but if there are, we would appreciate a 2-week turnaround in answering those.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. Terry. I do have a feeling that our staffs will be reaching out to you. Jan and I are very passionate about finding a solution, but we are going to need your continued advice, and counsel and direction.

I want to thank you all for coming here and providing your testimony and your answers, and you have been of great assistance to us. We are adjourned.

[Whereupon, at 10:45 a.m., the subcommittee was adjourned.]